

---

## PHILIP CARRILLO

### Education

BS – Applied Computing, California State University, Monterey Bay, 2001

### Professional Registrations, Certifications, and Affiliations

Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations  
Emergency Response (HAZWOPER) 40-Hour Training Certification  
OSHA HAZWOPER Annual 8-Hour Refresher Training Certification

### Professional Experience

Mr. Carrillo is a Systems Integrator and Project Manager in SCS's Remote Monitoring and Control business unit, with 18 years of experience—the past 8 with SCS—in groundwater control and monitoring systems (GWCMS), water supply systems (WSS), solid waste and landfill gas (LFG) management, including remote monitoring, Supervisory Control and Data Acquisition (SCADA), control systems, and the operation and maintenance (O&M) of LFG collection and treatment systems (LFGCCSs). He has managed all aspects of LFGCCSs, including wellfields and flares, and LFG-to-energy (LFGE) controls, design, O&M, and construction management. His unique combination of field operations management experience and control systems technical expertise adds tremendous value to any SCS team assigned to an OM&M project.

Mr. Carrillo has designed over 110 remote monitoring and SCADA systems that had comprehensive control logic (Programmable Logic Controllers [PLCs]) and Human Machine Interface (HMI) capabilities. He understands the complex issues that must be addressed to optimize LFG system performance and to maintain regulatory compliance. He has performed, installed, and repaired LFG control systems, and has been responsible for implementing upgrades to computer and communication systems vital to compliance management. This has included troubleshooting system components, coordinating with field technical personnel, interfacing with vendors and landfill operations personnel, ordering materials and equipment, and overseeing LFGCCS repairs and upgrades.

### State-of-the-Art O&M Data Management Technologies

Mr. Carrillo leads development of SCS's pioneering suite of state-of-the-art hardware and custom applications benefiting clients in their efforts to optimize data management efficiencies. Instrumental in designing **SCS Remote Monitoring and Control**<sup>®</sup>, a proprietary, user-friendly, secured web-based data management application brought to market in 2011, this technology quickly became the industry standard for LFG data management and is currently utilized at over 50 landfills across the United States. The SCS Remote Monitoring and Control application supports SCS's internal Compliance Audit Program, which was developed specifically to validate data and verify regulatory compliance of environmental control facilities operated by SCS. Our internal Compliance Audit Program reviews data acquisition procedures, instrument

calibration, data permit compliance, regulatory-required follow-up testing and remediation, testing schedules, and reporting.

In recent years, Mr. Carrillo has collaborated with SCS Field Services Senior Vice President Galen Petoyan and other SCS senior technical staff, including Ken Brynda, to develop and bring to market further advances in data management technology: **SCS Remote Monitoring and Control® (RMC)**, **SCSeTools™**, and **SCS MobileTools™**. SCS RMC automates the collection of data at a site and electronically transmits the data to SCSeTools, an online application platform for collecting, monitoring, viewing, charting, graphing, and managing data from a variety of sites in a variety of industries. SCS MobileTools is an electronic replacement for the labor-intensive task of completing, reading, and correcting hand-written forms. SCS MobileTools is compatible with a wide range of devices that use the Android and Apple operating platforms.

### **Project Experience**

A representative sampling of Mr. Carrillo's project experience is provided below.

**SCADA and Control System Installations, Legacy Landfills, Sonoma County, CA.** Mr. Carrillo provided design and engineering for cloud SCADA Liquids management and Control System installation at the Guerneville, Sonoma, Anonapolis, Roblar and Healdsburg Sanitary Landfills. Work included design and programming of the PLC and HMI devices.

**SCADA and Control System Upgrades, North Region Orange County Landfills, Orange County, CA.** Mr. Carrillo provided design and engineering for SCADA and Control System upgrades at the Villa Park, Brea Olinda and Yorba Park Sanitary Landfills. Work included design and programming of the PLC and HMI devices.

**LFG System O&M, Heaps Peak Sanitary Landfill, San Bernardino County, CA.** Mr. Carrillo acted as an on-site field technician for routine and non-routine LFGCCS O&M for a period of more than 2 years. Work included troubleshooting and repair of system malfunctions, making adjustments in the field to ensure the facility remained in regulatory compliance, responding to emergency call-outs, and interacting with equipment vendors.

**Landfill Well Construction Study, Milliken Sanitary Landfill, San Bernardino County, CA.** Mr. Carrillo coordinated well drilling, probe installation, and LFG monitoring in support of a pilot testing program investigating the effectiveness of three different well drilling techniques. During the testing program, three 24-inch-diameter extraction wells were installed with a conventional auger drill rig. In addition, three 8-inch-diameter extraction wells were installed with an air rotary drill rig, and one 7-7/8-inch-diameter steel casing well was driven directly into waste. The results of the pilot testing program were summarized in a technical paper presented to the Solid Waste Association of North America (SWANA).

**LFG Well Installation, Milliken and Mid-Valley Sanitary Landfills, San Bernardino County, CA.** Mr. Carrillo provided engineering and field support during well and probe installations in support of an LFGCCS O&M program. Work included scheduling and coordinating with field and drilling crews, managing and directing field activities, coordinating with office staff, logging gas wells, and ensuring that projects were completed on schedule.

**Construction Management, Waterman Landfill, San Bernardino, CA.** Mr. Carrillo provided construction management during installation of a granular activated carbon treatment system.

**Construction Management, Olinda Alpha Landfill, Orange County, CA.** Mr. Carrillo provided construction management during installation of an 18-inch below-grade LFG header.

**LFG Reporting Programs.** Mr. Carrillo oversaw compilation of monthly LFG OM&M reports for multiple municipal solid waste landfills in California and Arizona. These reports discuss sampling procedures, provide monitoring data, and summarize activities undertaken during routine monitoring and maintenance of LFG probes, extraction wells, and flare stations. Responsibilities have included review of monitoring data, technical quality control, completeness review, and oversight of report production for the following sites:

- 19th Avenue Landfill, Phoenix, AZ.
- 27th Avenue Landfill, Phoenix, AZ.
- Glendale Landfill, Glendale, AZ.
- Skunk Creek Landfill, Phoenix, AZ.
- Orange County Integrated Waste Management Department, Central Region Landfills (three landfills).
- Orange County Integrated Waste Management Department, North Region Landfills (three landfills).
- Orange County Integrated Waste Management Department, South Region Landfills (six landfills).
- San Bernardino County Landfills (nine landfills).